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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/797,123	03/11/2004	Eric Sanchez	PET-2123	4663
23599	7590	05/31/2006		
MILLEN, WHITE, ZELANO & BRANIGAN, P.C. 2200 CLARENDON BLVD. SUITE 1400 ARLINGTON, VA 22201			EXAMINER DOUGLAS, JOHN CHRISTOPHER	
			ART UNIT	PAPER NUMBER
			1764	

DATE MAILED: 05/31/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

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Office Action Summary	Application No. 10/797,123	Applicant(s) SANCHEZ ET AL.	
	Examiner John C. Douglas	Art Unit 1764	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 March 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>3/11/04</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

3. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

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4. Claims 1- rejected under 35 U.S.C. 103(a) as being unpatentable over Carson (US 3470090) in view of Sikonia (US 4167474).

5. With respect to claim 1, Carson discloses a reforming process comprising a plurality of fixed bed reactors in series where catalyst can be withdrawn from each of the reactors and regenerated such that the catalyst activity is maintained at a predetermined level (see Carson, column 2, lines 17-24, column 4, lines 56-59, Figure 1 and claim 1).

Carson does not disclose where each reactor operates in a moving bed and where the regenerated catalyst serves at least two reactors from a common distribution zone and once the catalyst leaves the reactors it is mixed and homogenized and then brought into the regeneration zone.

However, Sikonia discloses two reactors with movable catalyst beds and where the catalyst is withdrawn from both reactors and commingled and sent to a common regenerating tower (see Sikonia, claim 1 and Figure 1).

Sikonia discloses that such a process increases operating efficiency and increases effective utilization of catalyst (see Sikonia, column 2, lines 46-51).

Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention to modify the process of Carson to include two reactors with movable catalyst beds and where the catalyst is withdrawn from both reactors and commingled and sent to a common regenerating tower in order to increase operating efficiency and effective utilization of catalyst.

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6. With respect to claim 2, Sikonia discloses 4 reactors in series (see Sikonia, column 10, lines 55-59 and Figure 1).
7. With respect to claim 3, Carson discloses where each of the reactors in series is supplied with catalyst from the reaction zone (see Carson, column 4, lines 29-38 and Figure 1).
8. With respect to claim 4, Sikonia discloses a process with two reactor systems and each system can contain two reaction zones and where the catalyst is supplied to the first reaction zone in the system (see Sikonia, column 10, lines 10-12 and 55-59, column 11, lines 1-56 and Figure 1).
9. With respect to claim 5, Sikonia discloses where the regenerated catalyst is supplied to the first reaction zone and the fourth reaction zone and where the second reaction zone is supplied by catalyst from the first reaction zone and the third reaction zone is supplied by catalyst from the second reaction zone (see Sikonia, column 10, lines 55-59, column 11, lines 1-56, column 12, lines 10-22 and Figure 1).
10. With respect to claim 6, Carson discloses where each of the reaction zones are supplied with catalyst (see Carson, column 4, lines 29-38 and Figure 1) and Sikonia discloses where spent catalyst is carried out from two reactors (see Sikonia, column 12, lines 20-28 and 29-36 and Figure 1).
11. With respect to claim 7, Carson discloses where the operating pressure is between 0.2 and 6.9 MPa (35-1000 psig) (see Carson, column 2, lines 66-70).
12. With respect to claim 8, Carson discloses where the H₂/HGC molar ratio is between 1:1 and 10:1 (see Carson, column 2, lines 66-70).

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13. With respect to claim 9, Carson discloses where the liquid hourly space velocity is between 0.2 and 10 (see Carson, column 2, lines 66-70).
14. With respect to claim 10, Sikonia discloses using air to remove coke from the catalyst (See Sikonia, column 12, lines 44-58).
15. With respect to claims 11 and 12, Sikonia discloses where the reactors that form the series of reactors can be placed side-by-side or stacked vertically (see Sikonia, column 3, lines 33-38).
16. With respect to claim 13, Sikonia discloses that the process can be the reforming reaction of dehydrogenation of naphthenes to aromatics (see Sikonia, column 6, lines 18-20).

Conclusion

17. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure: Dolan (US 5368720); Swan (US 5203988); Choi (US 4401554); and Boret (US 4133743).


Any inquiry concerning this communication or earlier communications from the examiner should be directed to John C. Douglas whose telephone number is 571-272-1087. The examiner can normally be reached on 7:30 A.M. to 4:30 P.M..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenn A. Caldarola can be reached on 571-272-1444. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

JCD



Glenn Goldfarb
Supervisory Patent Examiner
Technology Center 1700